



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,296	03/23/2006	Jingwu X Zhang	050989.0102.01U/SPC	2727
27148	7590	05/14/2008		EXAMINER
POL SINELLI SHALTON FLANIGAN SUELTHAUS PC 700 W. 47TH STREET SUITE 1000 KANSAS CITY, MO 64112-1802			EWOLDT, GERALD R	
			ART UNIT	PAPER NUMBER
			1644	
				MAIL DATE
				05/14/2008
				DELIVERY MODE
				PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,296	<b>Applicant(s)</b> ZHANG, JINGWU X
	<b>Examiner</b> G. R. Ewoldt, Ph.D.	<b>Art Unit</b> 1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 30 December 2004.
- 2a)  This action is FINAL.      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-4,6-8,10-14,16,17 and 19-22 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) \_\_\_\_\_ is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) 1-4,6-8,10-14,16,17 and 19-22 are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some \* c)  None of:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO/SB/08) \_\_\_\_\_  
Paper No(s)/Mail Date \_\_\_\_\_
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5)  Notice of Informal Patent Application
- 6)  Other: \_\_\_\_\_

**DETAILED ACTION**

1. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1:

I. Claims 1-3, 6, 7, 13, and 16, drawn to an oligonucleotide encoding the peptide of SEQ ID NO:4, and a kit comprising the oligonucleotide.

II. Claims 1-3, 6, 7, 13, and 16, drawn to an oligonucleotide encoding the peptide of SEQ ID NO:5, and a kit comprising the oligonucleotide.

III. Claims 1-3, 6, 7, 13, and 16, drawn to an oligonucleotide encoding the peptide of SEQ ID NO:6, and a kit comprising the oligonucleotide.

IV. Claims 4 and 14, drawn to an oligonucleotide encoding the peptide of SEQ ID NO:4 and a second oligonucleotide comprising a second sequence found in a region from V $\beta$  to C $\beta$  of the TCR gene, and a kit comprising the oligonucleotides.

V. Claims 4 and 14, drawn to an oligonucleotide encoding the peptide of SEQ ID NO:5 and a second oligonucleotide comprising a second sequence found in a region from V $\beta$  to C $\beta$  of the TCR gene, and a kit comprising the oligonucleotides.

VI. Claims 4 and 14, drawn to an oligonucleotide encoding the peptide of SEQ ID NO:6 and a second oligonucleotide comprising a second sequence found in a region from V $\beta$  to C $\beta$  of the TCR gene, and a kit comprising the oligonucleotides.

VII. Claims 8, 10-12, and 17, drawn to a method of detecting T cells or monitoring an autoimmune disease employing an oligonucleotide encoding the peptide of SEQ ID NO:4.

VIII. Claims 8, 10-12, and 17, drawn to a method of detecting T cells or monitoring an autoimmune disease employing an oligonucleotide encoding the peptide of SEQ ID NO:5.

IX. Claims 8, 10-12, and 17, drawn to a method of detecting T cells or monitoring an autoimmune disease employing an oligonucleotide encoding the peptide of SEQ ID NO:6.

X+. Claims 19 and 20, drawn to a peptide vaccine of SEQ ID NO:4, 5, or 6, or a specific combination thereof.

**NOTE:** If this "Group" is elected a specific peptide, or combination of peptides, must be elected. Each peptide or combination of peptides comprises a single Group. This is **not** an election of species.

XI+. Claims 21 and 22, drawn to a method of treating an autoimmune disease employing a peptide vaccine of SEQ ID NO:4, 5, or 6, or a specific combination thereof.

**NOTE:** If this "Group" is elected a specific peptide of combination of peptides must be elected. The method of treatment employing each peptide or combination of peptides comprises a single Group. This is **not** an election of species.

2. Inventions I-III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombinations I-III have separate utility such as use as DNA probes or primers for the identification of different TCR V $\beta$  regions. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. Inventions IV-VI and I-III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the

Art Unit: 1644

instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the subcombinations are claimed separately. The subcombination has separate utility such as a probe for specific TCR V $\beta$  regions. The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.**

5. The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and

Art Unit: 1644

specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. The inventions listed do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Martin et al. (1991, IDS) teaches an oligonucleotide of about 15 to 30 nucleotides encoding the peptide of SEQ ID NO:5 (see particularly, Figure 4, **MS18**).

Since Applicant's inventions do not contribute a special technical feature when viewed over the prior art they do not have single general inventive concept and lack unity of invention.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen O'Hara, Ph.D. can be reached on (571) 272-0878.

8. **Please Note:** Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR

Art Unit: 1644

or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

/G.R. Ewoldt/  
G.R. Ewoldt, Ph.D.  
Primary Examiner  
Technology Center 1600